



Response Under 37 C.F.R. §1.192

Appellant's Brief

Application No. 09/937,408

Paper dated May 20, 2003 in

reply to Notice of Appeal received February 20, 2003

Atty. Docket No. 3882-011607

#12 Appeal
Brief
Jones
5/30/03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/937,408
Applicant : Akinori TOKINAGA et al.
Filed : September 24, 2001
Title : Structure of Instrument Panel Support Member
Group Art Unit : 3612

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Alexandria, VA 22313-1450

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APPEAL BRIEF

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed on February 14, 2003. The Notice of Appeal was received in the United States Patent and Trademark Office on February 20, 2003. The Appeal Brief is timely filed with a Petition For One-Month Extension of Time bringing the due date to May 20, 2003. The Notice of Appeal appeals the final rejection of claims 5-10.

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA. 22313-1450 on May 20, 2003.

Gloria Robinette

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5/20/2003

Date

The headings used hereinafter and the subject matter set forth under each heading is in accordance with 37 C.F.R. §1.192(c).

I

REAL PARTY IN INTEREST

Futaba Kogyo Co., Ltd., is the assignee of the entire right, title, and interest in the above-identified application, as evidenced in the Assignment recorded September 24, 2001 on reel 012293, frame 0413, and as such, is the real party in interest in this Appeal.

II

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interference known to the Appellant, the Appellant's legal representative or Assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

III

STATUS OF CLAIMS

Claims 5-10 remain pending in the present application and are currently rejected. Specifically, claims 5-10 stand finally rejected as being anticipated by the teachings of U.S. Patent No. 5,238,286 to Tanaka et al. under 35 U.S.C. §102(b).

Claims 5-10 are reproduced in Appendix IX, which is attached hereto.

IV

STATUS OF AMENDMENTS

No response after final was submitted in this case. There were no claim changes made after the final Office Action dated November 15, 2002. The claims on appeal are the claims as originally filed on September 24, 2001, which are finally rejected in the final Office Action of November 15, 2002.

SUMMARY OF THE INVENTION

The present invention is directed to an instrument panel supporting member structure that prevents the vibration of a steering column and steering shaft during idling and high speed operation of a vehicle. The instrument panel supporting member structure utilizes a minimum number of parts and, therefore, also reduces the manufacturing costs.

The claims on appeal are directed to an instrument panel supporting member structure. The structure includes a main body, at least one steering bracket, a bracket connected to a dash panel, and a stay. The main body is a pipe which is arranged in a lateral direction and has ends connected to right and left front pillars. The at least one steering bracket is positioned on a driver's seat side for supporting a steering column. The stay is positioned substantially on a central portion and connected to a floor part. The pipe forming the main body is integrally formed with joining parts by crush-molding, and the joined parts are joined to the front pillar.

A cross-sectional rigidity of the pipe forming the main body is set in the range of approximately $E I = 2.0 \text{ to } 3.0 \times 10^8 \text{ (N cm}^2\text{)}$ in which E denotes a Young's modulus and I denotes a cross-sectional secondary moment. The joining parts formed by crush-molding on both ends of the pipe are respectively connected to the front pillars by bolts or welding. The connection pitch is set at approximately $\pi d/2$ or less in which d denotes a diameter of the pipe.

The stay is formed with a cross-sectional U shape and is installed at an inclination with respect to a vertical direction so that an upper end of the stay connected to the member main body is positioned closer to the driver's seat than a lower end of the stay connected to the floor part. A reinforcing member is connected between a point in a vicinity of the upper end of the stay and a point in the vicinity of one of the at least one steering brackets on the member main body.

In conventional instrument panels of the prior art, a side bracket is fixed to both ends of a main body by welding in order to join an instrument panel member to a front pillar. However according to this structure, the rigidity of the supporting area is insufficient. Additionally, the rigidity of the side brackets, which are provided as individual parts, also tend to be affected. As a result, it is difficult to obtain the sufficient supporting rigidity for the steering column and the instrument panel.

In contrast to these conventional instrument panel members, the instrument panel member of the present invention provides a structure in which a joining part is integrally formed with a pipe forming a supporting main body, thereby providing high rigidity to the steering column supported by a steering bracket connected to the main body. Additionally, the present invention requires no side brackets as required in the prior art.

VI

ISSUES

The issues on appeal include:

I. Are claims 5-10 anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 5,238,286 to Tanaka et al.?

VII

GROUPING OF CLAIMS

Claims 5-10 stand or fall together and are grouped accordingly.

The support for consideration of the grouping of claims is addressed in the arguments set forth in the Arguments section of this Appeal Brief.

VIII

ARGUMENTS

The Arguments made in the October 15, 2002 Response to the July 15, 2002 Office Action are hereby incorporated by reference. The Examiner's rejections are traversed on

the grounds that the cited prior art reference fails to meet each and every structural limitation of the claims as discussed hereinafter.

I. CLAIMS 5-10 ARE NOT ANTICIPATED UNDER 35 U.S.C. §102(b) BY U.S. PATENT NO. 5,238,286 TO TANAKA ET AL. (hereinafter "the Tanaka patent").

Claim 5 is directed to an instrument panel supporting member structure. The instrument panel supporting member structure includes a main body (1), including a pipe which is arranged in a lateral direction with ends connected to right and left front pillars, at least one steering bracket (3) positioned on a driver's seat side for supporting a steering column, a bracket connected to a dash panel (2), and a stay (5) positioned substantially on a central portion and connected to a floor part. The pipe constituting the main body (1) is integrally formed with joining parts by crush-molding, with the joining parts joined to the front pillars.

The Tanaka patent discloses an instrument panel structure (IS) for supporting a steering apparatus in an automotive vehicle. The front body of the automotive vehicle includes a floor panel member (21) and front side pillars (23) extending upward from and on opposite sides of the floor panel member (21). The instrument panel structure (IS) includes a support member or beam (1) that extends substantially parallel to the floor panel member (21) in a transverse direction of the front body and is secured at its opposite ends to the front side pillars (23). The support member (1) supports a steering apparatus (3) at a position to one side of the center of the support member (1). The instrument panel structure (IS) also includes reinforcing means for restricting deformation of the support member (1) caused by forward swinging movement of the steering apparatus (3) during a collision. The reinforcing means includes a reinforcing pipe member closely fitted into one side of the center of the support member (1). Side beam brackets (12) are provided at the ends of the support member (1) to connect the support beam (1) to the front side pillars (23).

In rejecting the claims, the Examiner stated in the July 15, 2002 Office Action that the Tanaka patent discloses in Figs. 1-4 “the invention as claimed to include a main body constituted by a pipe 1 (known in the art with broad range of E and I), a steering bracket 4, a bracket 12, a U-shaped stay 2, a reinforcing member 9, 10.” The Examiner further stated in the November 15, 2002 final Office Action that “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of construction (crush-molding).”

In contrast to the Examiner’s statements, Appellants respectfully submit that the Tanaka patent fails to teach or suggest a main body formed by a pipe that is integrally formed with joining parts by crush-molding, with the joining parts adapted to be joined to front pillars in an automobile body as set forth in claim 5 of the present application. Claim 5 specifically requires a main body (i.e., pipe) with crush-molded joining parts. By having integral crush-molded joining parts, stress is dispersed as a result of both ends of the pipe being crush-molded, thereby obtaining high rigidity for the joining area and increasing the rigidity for a steering column supported by the supporting member. Thus, the term “crush-molding” is not a product-by-process limitation as indicated by the Examiner. Rather, “crush-molding” as set forth in claim 5 is a physical, structural limitation that is in no way taught or suggested by the Tanaka patent.

Moreover, by utilizing an instrument panel support member as claimed in the present invention, the need for separately formed side beam brackets (12) to secure the support member (1) to the front side pillars (23) as taught in the Tanaka patent is eliminated. The advantage to eliminating such side brackets as taught by the present invention is further supported by data in Table I of the present application (page 13), in which the steering column supporting rigidity is increased by the use of the main body (i.e. pipe) formed with integral, crush-molded joining parts rather than the use of “side” brackets as taught by the Tanaka patent. The Tanaka patent requires the use of end or side brackets, which is the exact feature the present

invention eliminates. In view of the foregoing, claim 5 is clearly not anticipated by the Tanaka patent nor would the limitations of claim 5 have been obvious over the teachings of the Tanaka patent.

Furthermore, the Tanaka patent discloses an instrument panel structure having a support member (1) for supporting a steering apparatus (3) that prevents upward deformation during a collision. Thus, the primary purpose of the Tanaka patent is to provide structural support in the steering apparatus (3) area. To achieve the necessary support, it is essential to include additional components, namely, a reinforcing pipe (11) and at least one link lever (10), in the support member (1) (Col. 4, lines 38-44). In contrast, the instrument panel support member set forth in claims 5-10 provides structural support without the need for any additional elements and consequently eliminates the need for the additional components (11, 10) as used in the Tanaka patent. The instrument panel support member achieves structural rigidity by including a pipe having integral, crush-molded joining parts or ends. As stated previously, the joining ends are joined directly to the front pillars without the aid of additional "end or side brackets".

Claim 6 further defines the cross-sectional rigidity of the pipe forming the main body set forth in claim 5. Since the joining parts of the pipe are integral and crush-molded, the support or rigidity provided to the steering column is increased when compared to the Tanaka patent, due to the elimination of additional components (i.e., "end or side brackets") in the instrument panel support member. Thus, the limitations of claim 6 are not anticipated by or rendered obvious over the teachings of the Tanaka patent.

Finally, claim 7 defines that a stay (5) is formed with a cross-sectional U shape and at an inclination with respect to a vertical direction so that an upper end of the stay connected to the main body is positioned closer to the driver's seat than a lower end of the stay connected

to the floor part. The Tanaka patent does not teach or suggest such a cross-sectional U shape and the inclination of the stay as set forth in claim 7. Rather, the Tanaka patent discloses a stay assembly (2) having a pair of generally triangular-shaped stay side plates (2a) extending downward from the support beam and juxtaposed at a predetermined distance, with a strut (2b) interconnecting the middle portion to define an upper space and a lower space. Additionally, the stay (5) of the present invention is inclined for increasing the steering support rigidity. The Tanaka patent fails to teach or suggest an inclined stay design for increasing steering support rigidity. For the foregoing reasons, the limitations of claim 7 are not anticipated or rendered obvious over the teachings of the Tanaka patent.

Claims 8-10 depend indirectly from claim 5 and further define the instrument panel support member of the present invention. These claims further distinguish the claimed invention from the instrument panel structure disclosed by the Tanaka patent.

CONCLUSION

In summary, the claims of the present application define a unique instrument panel supporting member structure. With regard to the rejected claims, the Examiner has not addressed all of the limitations of the independent claim nor the corresponding dependent claims. Anticipation requires that the elements of the claim under consideration be described in a single reference. *Glaverbel S.A. v. Northlake Mkt'g & Supp., Inc.*, 45 F.3d 1550, 33 USPQ 2d 1496 (Fed. Cir. 1995). The Examiner has failed to show in the Tanaka patent each and every element of the claims of the present invention. The preponderance of evidence clearly establishes the allowability of claims 5-10. Reversal of all of the Examiner's rejections and allowance of claims 5-10 are respectfully requested.

A check in the amount of \$320.00 accompanies this Appeal Brief. The Commissioner for Patents is hereby authorized to charge any additional fees which may be

required to Deposit Account No. 23-0650. Please refund any overpayment to Deposit Account No. 23-0650. An original and two copies of this Appeal Brief are enclosed.

Respectfully submitted,

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IX

APPENDIX

5. An instrument panel supporting member structure comprising:
- a main body constituted by a pipe, the pipe arranged in a lateral direction and having ends connected to right and left front pillars;
 - at least one steering bracket positioned on a driver's seat side for supporting a steering column;
 - a bracket connected to a dash panel; and
 - a stay positioned substantially on a central portion and connected to a floor part;
- wherein the pipe constituting the main body is integrally formed with joining parts by crush-molding, the joining parts joined to the front pillars.
6. The instrument panel supporting member structure according to claim 5, wherein a cross-sectional rigidity of the pipe constituting the main body is set in the range of approximately $E I = 2.0 \text{ to } 3.0 \times 10^8 \text{ (N} - \text{cm}^2\text{)}$ in which E denotes a Young's modulus and I denotes a cross-sectional secondary moment, and the joining parts formed by the crush-molding on the both ends of the pipe are respectively connected to the front pillars by bolts or welding the connection pitch being set at approximately $\pi - d/2$ or less in which d denotes a diameter of the pipe.
7. The instrument panel supporting member structure according to claim 5, wherein the stay is formed with a cross-sectional U shape, and the stay is installed at an inclination with respect to a vertical direction so that an upper end of the stay connected to the member main body is positioned closer to the driver's seat than a lower end of the stay connected to the floor part.

8. The instrument panel supporting member structure according to claim 7, wherein a reinforcing member is connected between a point in a vicinity of the upper end of the stay and a point in the vicinity of one of the at least one steering brackets on the member main body.

9. The instrument panel supporting member structure according to claim 6, wherein the stay is formed with a cross-sectional U shape, and the stay is installed at an inclination with respect to a vertical direction so that an upper end of the stay connected to the member main body is positioned closer to the driver's seat than a lower end of the stay connected to the floor part.

10. The instrument panel supporting member structure according to claim 9, wherein a reinforcing member is connected between a point in a vicinity of the upper end of the stay and a point in the vicinity of one of the at least one steering brackets on the member main body.